

the genus *Doliops* (*D. curculionides*), and greatly resembles that insect in size and form; but the thorax has marks, or lines, instead of spots. Its colouring is more brilliant.

VII. *On the Linnæan Species of Staphylinus, a Genus of Coleopterous Insects.* By J. O. WESTWOOD, F.L.S. &c.

[Read 5 Oct. 1840; 1 March, 1841.]

My attention having been directed by Dr. Erichson of Berlin (the author of a very valuable work upon the family *Staphylinidæ*) to several of the species of that family described by Linnæus, and preserved in the Linnæan Cabinet of Insects, with the view of clearing up the synonymy of such species, I have extended my examination to the whole of the twenty-six species described by the great Swede, including several species in addition to those of which Dr. Erichson requested my opinion.

Sp. 1. *Staphylinus hirtus* is the *Emus hirtus* of Leach; *Staphylinus hirtus* of most continental authors.

Sp. 2. *Staph. murinus* is a species of *Staphylinus* (subgenus *Trichoderma*, Steph.) The Linnæan specimen is nearly $\frac{3}{4}$ of an inch long ("Insectum inter majores, non maximos," Linn.) It is the *St. murinus* of Olivier, 3, 15, pl. 6, fig. 51, 6, and Panzer, pl. 66, fig. 16. By Fabricius, and all other English and foreign authors, it is given under the name of *Staph. nebulosus*, Fabr. The *Staph. murinus* of Fabricius, Marsham, Stephens, Erichson, &c., is a smaller species. De Geer has confounded both under his first species of *Staphylinus*, but has figured the true *St. murinus*.

Sp. 3. *Staph. maxillosus*. Under this name Linnæus confounded two distinct species, namely, the *Creophilus maxillosus* of Kirby, and the *Goerius olens* of Leach. From the short specific character given in the F. Su. and the Syst. N. it would appear that Linnæus intended the former insect as the type of the species; but the description given in the former work, "Hic maximos inter nostros est.—Elytra atra in quibusdam cineritie lævi nebulosa," as well as the figure of Geoffroy and description of Ray, referred to by

Linnæus, show that *G. olens* was the insect he had chiefly in view. In the *Systema Naturæ*, however, he endeavoured to get over the difficulty by stating, "*Junior undique tomentosus per elytra et abdomen cum fascia cinerea elytrorum et abdominis. Provector glaber et totus ater evadit.*" Hence Gravenhorst supposed that Linnæus could not have known the species figured by Geoffroy (*G. olens*), which appears to be rare in Sweden; but that the individual which he considered as *Provector* was an abraded *C. maxillosus*. This opinion, which Mr. Shuckard has recently reiterated, (*El. Brit. Ent.* p. 116,) and which seems supported by the Linnæan character, "*glaber et totus ater,*" a character which far better agrees with an abraded *maxillosus* than an ordinary *olens*, is nevertheless incorrect, there being no abraded specimen of *maxillosus* in the Linnæan Cabinet; whilst an ordinary specimen of *maxillosus*, and one of *olens*, are both stuck through the Linnæan label,* the latter placed first.

Sp. 4. *Staph. erythropterus*. This species has been regarded by Fabricius and most subsequent authors as composed of those large specimens of *Staphylinus*, with red elytra and legs, which have the hind margin of the prothorax golden coloured, and the scutellum black. The expression of Linnæus, "*Est inter majores, non maximos numerandus,*" is in favour of this opinion, these individuals being larger than any of the allied species. The antennæ of these insects are however red at the base and brown at the apex, whereas Linnæus says, "*Antennæ nigræ basi et apice rufescentes;*" which character, in conjunction with an entirely black prothorax and golden scutellum, is found in the *St. castanopterus* of Gravenhorst and Gyllenhal. Dr. Erichson accordingly gives the latter species as the true Linnæan *St. erythropterus*, and the *St. erythropterus* of Fabricius and most other authors under the name of *St. cæsaricus* of Cederheim. The typical Linnæan specimen however, being that which is stuck through the ticket in the handwriting of Linnæus, is of the largest size, with a golden posterior margin to the thorax. The antennæ are brown, with the base alone red. There are two specimens agreeing in these characters placed side by side, and a third specimen is added, which, however, has the prothorax entirely black, and the scutellum golden coloured, or the *St. castanopterus*.

* Another insect is also stuck through the Linnæan label agreeing with the typical specimen in size, but having the disc of the thorax destitute of the two rows of impressed punctures.

Sp. 5. *Staph. politus*. Under this name Linnæus confounded several distinct species of the genus *Philonthus* of Leach, regarding them as varieties of the same species. On referring however to the Linnæan Cabinet we find that the only individual which agrees with his observation, "Differentia specifica essentialis consistit in thorace decem punctis excavatis, sed vix absque lente conspiciendis," is the specimen, the pin of which is stuck through the specific label, and which appears to me to be identical with the *Staph. æneus* of Gravenhorst, Gyllenhal and Erichson. It is nearly five lines long. The head is large and square, with the sides deeply punctured behind the eyes; the anterior margin of the head has a large central impression, with a much smaller one on each side half way between it and the eyes; the inner and anterior angle of the eyes having one deep and several smaller impressions. The disc of the thorax has two posteriorly diverging rows of five punctures on the anterior part of the disc, the two anterior ones being close together on the anterior margin of the thorax; the first of these two being placed nearer to the lateral angles, and not strictly forming one of the longitudinal series of punctures. The insect thus agrees with the Linnæan character quoted above, whilst at the same time it must be referred to Gyllenhal's 3rd subdivision of the genus, "thoracis seriebus dorsalibus 4-punctatis;" although, were not this explanation given, it would appear to belong to his 4th subdivision, "thoracis seriebus dorsalibus 5-punctatis." The antennæ are entirely black, as are also the legs. This description will be seen to accord with Gyllenhal and Erichson's description of *St. æneus*, except that they do not mention the large impressed puncture in the middle of the front of the face.

The *Staph. politus* of the Swedes and Germans is quite distinct, having an oval head with the basal joint of the antennæ red beneath. Mr. Stephens, in his catalogue, gives the *Staph. politus*, "*Mus. Linné*," under the name of *St. puncticollis*, Kirby,* as identical with the *æneus* of Gravenhorst, and *similis* of Marsham; but in his Illustrations he describes it as having the head broad and orbiculate, which will not agree with the Linnæan specimen. He moreover describes another species, placed next to the *puncticollis*, under the Linnæan name of *politus*, but having the head ovate and narrower than the thorax. He adds, indeed, that the head is

* Mr. Kirby has rejected the name of *politus* for the species retained in "*Mus. Linné*," as well as that of *æneus*, given to it by Gravenhorst, the latter name having been previously used by De Geer for a species of this genus closely allied to, if not a variety of, the *St. laminatus* of Creutzer.

smaller in one sex: but surely as the form of the head in this genus constitutes one of the chief specific characters, he would have recorded the square form of the head in some of the specimens of his two species did they possess such a character, which is indeed so strongly conspicuous in the Linnæan specimen. He also describes the antennæ of his *St. politus* as having black antennæ. In this character it therefore differs from the *politus* of the Germans and the Swedes, although they, as well as Stephens, give the same references to Linnæus, Marsham and Olivier.

The *Staph. politus* of De Geer is given by Erichson as identical with *Ocyypus fuscatus*. The *Staph. politus* of Panzer (27, fig. 7) belongs to Gyllenhal's sixth section of *Staphylinus*, or *Philonthus*, "Thoracis seriebus dorsalibus multipunctatis." It is identical with the *Staph. punctus* of Gravenhorst, Gyllenhal and Erichson—*multipunctatus*, Mannerheim. The *Staph. politus* of Paykull is a still different species.

Sp. 6. *Staph. rufus* is the *Oxyporus rufus* of Fabricius, and all other subsequent authors.

Sp. 7. *Staph. lunulatus* is a species of Leach's genus *Bolitobius*, and has been considered by Gravenhorst, Gyllenhal, Erichson, Stephens, &c. to be the species which has the entire base of the elytra, as well as the scutellum, of a pale rufo-testaceous colour; the allied individuals with a blue-black scutellum, and a basal lunule on the elytra, being considered as a distinct species, under the name of *B. atricapillus*, by Fabricius and most subsequent authors. By Panzer, however, (F. I. G. 22, fig. 15,) and Zetterstedt, (Faun. Lapp. 1, 65, 10, and Ins. Lapp. 58, 11,) the latter individuals are figured and described as the true *St. lunulatus*, whilst the *lunulatus* of Gravenhorst, &c. is given as the *atricapillus*, Fab.; Zetterstedt observing of the former (*S. lunulatus*, Pz.) "Nomen triviale notis magis conveniens nec non frequentia individuorum (saltem in Suecia media et meridionali) affirmare videntur hunc esse illam ipsam speciem quam spectat Ill. à Linné, licet ejus descriptio brevis et manca sequenti seu *Tach. atricapillo* nostro [*lunulato*, Fab.] etiam adaptari possit: sed hic in Suecia perrarus forsitan a Linnæo non cognitus." In support of this observation the Linnæan specimen belongs, as indeed the specific name itself sufficiently indicates, to the species with the pale lunule at the base of the elytra.

Sp. 8. *Staph. riparius* is the *Pæderus riparius* of Fabricius and all other authors.

Sp. 9. *Staph. obtusus* is a species of *Tachyporus*, as indicated by Gravenhorst, Stephens and Erichson; the last of whom gives it as synonymous with *Oxyporus analis*, Fab. Stephens also gives the latter as a variety of it. In the Linnæan specimen the head and abdomen are yellow, and the black base of the elytra does not extend more than two-fifths of the length of those organs.

Sp. 10. *Staph. lignorum* appears to have been overlooked by all subsequent authors, except Mr. Hope, who considers it to be a species of *Tachyporus* (Coleopt. Man. 3, p. 57). The Linnæan specimen is however a species of *Tachinus*, of the size of *T. subterraneus*, being $2\frac{1}{2}$ lines long, with the head black; the antennæ fuscous; the thorax castaneous, with two small discoidal dark spots wide apart beyond the middle of the disc, and the lateral margins paler; the elytra luteous, with the suture darker; the abdomen brown, the margins of the segments, and the large terminal segment, paler luteous-brown, except the latter, which is darker towards the base; the feet are luteo-fulvous.

It is difficult to conceive that this description can agree with that given in the Fauna Suecica, in which we read "Corpus totum lineare longiusculum;" but the further character, "Thorax versus elytra duobus punctis excavatis notatus," as well as the colours of the elytra, evidently and satisfactorily prove that the specimen still preserved in the Linnæan Cabinet, and from which the above description is drawn, is the true Linnæan species.

Sp. 11. *Staph. Silphoides* is also a species of *Tachinus*, synonymous with the *T. suturalis* of Gravenhorst and Panzer (18, fig. 20). The Linnæan specimen has the discoidal mark on each of the elytra of a reverse pear-shape, the major part of the elytra being fulvous.

Sp. 12. *Staph. subterraneus* is also a species of *Tachinus*, as correctly indicated by Gravenhorst, Stephens and Erichson. The specimen preserved in the Linnæan Cabinet is $2\frac{1}{2}$ lines long. It exactly accords with the Linnæan description, although the specific ticket is in the handwriting of the younger Linnæus.

Sp. 13. *Staph. flavescens* is a species which all recent Entomologists have failed in recognizing. Fabricius gives it as identical with his *Staph. flavescens*, which, according to Gyllenhal and Erichson, is a species of *Philonthus*, namely, *Ph. discoideus*. The former of these authors observes upon the last named species,

“*St. flavescens* cl. Fabricii certe huc pertinere videtur, sed cl. Linnæi ejusdem nominis minime idem” (Ins. Suec. 2, 332); and Gravenhorst says of the Linnæan insect, “*similis Staph. subterraneo*,” evidently borrowed from the Linnæan expression “*priori [subterraneo] similis* ;” but Linnæus adds, “*sed quadruplo minor—abdomen fere subulatum*.” Its size must have been very minute, for it is described as “*inter omnes nostros minimus utpote qui pulicem non excedit*.”

There is no specimen of the insect in the Linnæan Cabinet, so that it is now impossible to determine it with any degree of certainty.

Sp. 14. *Staph. elongatus* is a species of *Lathrobium*: in which genus there are three closely allied species, *St. elongatus*, L., *S. fulvipennis*, Grav., and *L. rufipenne*, Gyll., in all which the elytra are of a red colour, with the base black. These three species differ chiefly from each other in the form of the head and thorax, and in the under side of the penultimate segment of the abdomen of the males. The Linnæan specimen is a female, and appears to be identical with the *Lathr. elongatum* of Erichson, and probably of Stephens, being 4 lines long. The last named author, it is however to be observed, in describing *L. elongatum*, adopts the description given by Gyllenhal of his *L. elongatum*; but Dr. Erichson has shown that Gyllenhal’s description does not apply to his insect, Gyllenhal’s *L. elongatum* being one-quarter or even one-half of the size of *L. brunripes*, which is also 4 lines long, according to Erichson as well as Stephens; neither does the form of the penultimate segment of the abdomen of the males accord.

Sp. 15. *Staph. biguttatus*. This species is a *Stenus*, but the Linnæan character is so short that it will equally suit any one of the species which have a pale fulvous spot on the elytra. The hind legs (which are entirely black) and the abdomen are all that remain of the Linnæan specimen. The abdomen is the same size as that of *St. bipustulatus*. Gyllenhal doubtfully gives *St. biguttatus* of Linnæus as identical with *Dianous cærulescens*, and immediately after gives the *bipustulatus* of Linnæus and Marsham under the name of *biguttatus* of Fabricius, Grav., Pz., and Oliv. Erichson, on the contrary, gives the *biguttatus* of these last mentioned authors as identical with the *biguttatus* of Linnæus, omitting the *bipustulatus*. Stephens, however, omits the reference of *bigut-*

tatus of Linnæus, but gives the *biguttatus* of Gravenhorst, and the *bipustulatus* of Linnæus, as distinct species.

Sp. 16. *Staph. bipustulatus*. No specimen of this insect is unfortunately to be found in the Linnæan Cabinet. The Linnæan description however, although very short, seems sufficiently to prove that it is a species of *Stenus*, "corpus valde oblongum, magnitudine minoris pediculi, antennæ clavatæ," as well as the circumstance of Linnæus bringing that and the preceding into juxtaposition in his latest work. In the uncertainty necessarily resulting from the loss of the Linnæan specimen, it would be useless to attempt to decide upon the precise species of spotted *Stenus* to which the description was intended to apply. By Marsham, followed by Curtis and Stephens, it is given as a distinct species of *Stenus*. By Gyllenhal and Zetterstedt it (as well as the *S. bipustulatus* of Ljungh) is referred to the *St. biguttatus*, Fab., (*Juno b.* of Paykull,) which our English authors give as distinct. Fabricius describes a very different insect to this under the same name, *S. bipustulatus*, which belongs to the genus *Philonthus*, and which is figured by Panzer (27, 10). I mention this because Mr. Stephens has accidentally referred to this figure under the *Stenus bipustulatus*.

Sp. 17. *Staph. Cantharellus*. This insect is also wanting in the Linnæan Collection. It appears to have been entirely overlooked by subsequent authors, except Mr. Hope, who says of it, "probably a *Stenus*, or a genus closely allied to it." The words of Linnæus, however,—"*simillimus Cantharidi biguttatæ. Elytra abdomine dimidio breviora, mollia, fusco-glaucoscentia, apice puncto flavo. Abdomen molle, glaucum*,"—evidently prove that this insect does not belong to the *Brachelytra*, but rather to the genus *Malthinus*. Its size is said to be "pediculo $\frac{1}{2}$ minus."

Sp. 18. *Staph. littoreus* is a species of the genus *Conurus* Steph., and identical with *Oxyp. cellaris*, Fab., Grav., Gyll., as correctly indicated by Erichson, who has collected numerous other synonyms in his later work. It is proper, however, to observe that Mr. Stephens had first suggested the identity of the two species in his catalogue, and that Mr. Curtis has subsequently published a beautiful figure of the insect, with its Linnæan name, in his *British Entomology*, pl. 762.

Sp. 19. *Staph. sanguineus*. By Fabricius, and almost all suc-

ceeding authors, this insect is regarded as one of the *Pselaphidæ*, belonging to Leach's genus *Bryaxis*, whilst Gyllenhal's (Ins. Suec. 4, 232) description and reference assign it to the *Tyrus mucronatus* of Aubé; and to add to the confusion, Panzer figures a red species of *Euplectus* with a black head, with the same name and reference, although Linnæus expressly says, "totus ater glaber, exceptis elytris sanguineis." The Linnæan specimen, however, belongs to the sub-family *Aleocharides* and genus *Aleochara*, being closely allied to *A. fuscipes*. Mr. Kirby, in his manuscripts upon this family, communicated to Mr. Stephens and incorporated by him in his catalogue and illustrations, had noticed this circumstance, and restored the specific name to the species, under which it is described by Mr. Stephens (Ill. Mand. 5, p. 160). It appears to be identical with the small specimens of *Al. mitis*, Grav., mentioned by Erichson, (Gen. et Sp. Staph. i. 163,) as probably identical with the *Al. crassicornis* of Boisduval and Lacordaire, or with the *Al. rufipennis* of Erichson (Er. cit. p. 162, which is however distinct from the *rufipennis* of Kirby and Stephens). I possess a specimen of this insect from Mr. Haworth's Cabinet, which had been compared by Mr. Kirby himself with the Linnæan specimen of *Sp. sanguineus*, and to which is also attached the name *Al. lugens*, G., as a synonym. Mr. Stephens has also given that species as belonging to the same group of *Aleochara* as the *Al. fuscipes* and *sanguinea*. Dr. Erichson, having introduced *Al. lugens* into his genus *Myrmedonia*, evidently considers that Stephens and Kirby have erred in this respect; the maxillæ of my specimen of *sanguinea*, as I find on dissection, agree however with those of *Al. fuscipes*, whereas the maxillæ of *Myrmedonia* are very differently formed (Erich. pl. 3, fig. 21).

Sp. 20. *Staph. caraboides*, Linn., belongs to the genus *Lesteva*, Latr., and subgenus *Anthophagus* (as restricted by Dr. Erichson). There are two closely allied species which have been confused in their synonymes, namely, *A. caraboides* and *A. testaceus*. By Gravenhorst the species with a subcordate thorax is regarded as the *St. caraboides*, whilst that with a quadrate head is named *A. testaceus*. Messrs. Boisduval and Lacordaire, in the Faune Entomologique de Paris, have transposed these names; but Dr. Erichson has restored them, and with propriety, the thorax of the Linnæan specimen being evidently subcordate. The head can, however, scarcely be termed piceous, although considerably darker coloured than the thorax, which is bright testaceous; the elytra are paler, and the basal joint of the antennæ is paler than the following joints.

Sp. 21. *Staph. chrysomelinus* is a species of *Tachyporus*, closely allied to *Staph. obtusus*, Linn., respecting the specific identity of which there appears to be no diversity of opinion, although the label in the Linnæan Cabinet is in the handwriting of the younger Linnæus. The *Oxyporus melanocephalus* of Fabricius, and *Staph. merdarius* of Marsham, are to be considered as varieties of it.

Sp. 22. *Staph. flavipes* appears to have been lost sight of, or doubtfully treated by, subsequent Entomologists. Fabricius indeed gave this name and reference to a species which is identical with the *Omalium planum* of Gravenhorst, according to Dr. Erichson, who has carefully examined the Fabrician Collections (who observes on this synonym, "In Fabricius Sammlung befindet sich dieser Kafer als *Staph. flavipes*: ob der Linneische wirklich derselbe sei, geht aus Linne's Beschreibung nicht hervor, wenn dieselbe auch nichts enthalt was dem entgegen ware," Col. March, p. 637); whilst Mr. Kirby in his manuscripts gave it doubtfully as a species of *Falagria* of Leach, (which reference Mr. Stephens—Catal. p. 260—and Mr. Hope—Col. Man. 3, 20—have also adopted). The Linnæan specimen (ticketed by the younger Linnæus) is however a species of *Tachyporus*, identical with the *T. hypnorum*, Fabr. (of which *T. marginatus* and *nitidulus* are evidently varieties). It is a line and a half long. The lateral and posterior margins of the thorax are pale, the pale colour being dilated at the posterior angles. The Linnæan description is silent as to these pale margins of the thorax.

Sp. 23. *Staph. fuscipes* is another species which, from the insufficient description given of it by Linnæus, has been hitherto overlooked or doubtfully treated by subsequent authors. By Fabricius a species of *Aleochara* was described under that name, reference being also made by that author (Syst. Eleuth. 2, p. 598) to Panzer's F. I. G. 27, fig. 12. The latter figure however represents a species of *Tachyporus* (*T. fimetarius*, Grav.). Hence the Fabrician species was also rendered doubtful; but Dr. Erichson has satisfactorily proved that the latter is that species of *Aleochara* known under that name. The Linnæan insect is however quite distinct from either of the above, upon which Erichson observes, "*Staph. fuscipes*, Linn., species dubia quidem est, at certe distincta a nostra. Thorace, capite et maxillis insignibus forte ad *Oxytelum* vel potius *Platystethum* quendam spectans." The Linnæan specimen, however, belongs to the genus *Gyrohypnus*, Kirby, (*Xantholinus*, Dahl.); and although Linnæus describes it as "pediculo fere

major," his specimen is 3 lines long without the head, which is wanting. The thorax is long and black, slightly narrowed behind, with two discoidal rows of impressed dots (seven in each row), the lateral rows being sparingly punctured; the elytra are testaceous (fusca, Linn.), and the legs and coxæ entirely testaceous ("tibiæ flavescens, non vero femora," Linn.) It appears to me to be identical with the *G. lentus*, Gravenhorst and Gyllenhal.

Sp. 24. *Staph. rufipes* is a species of the genus *Tachinus*, but the specific name has been applied to various allied species by Gravenhorst, De Geer, Olivier, Gyllenhal, Fabricius, and Stephens. The Linnæan insect is $2\frac{1}{2}$ lines long, and is identical with the *T. pullus* of Gravenhorst, being, however, a variety of that species, with the entire anterior, lateral and posterior margins of the thorax, and the sides and apex of the elytra, pitchy red. Dr. Erichson has also ascertained that the *Oxyp. rufipes* of the Fabrician Cabinet is identical with *Tach. pullus*, Grav. The *T. rufipes* of Gravenhorst, Gyllenhal and Stephens is at once distinguished by the black base of the antennæ (which is red in the Linnæan specimen), and is the true *Oxyporus flavipes* of the Fabrician Cabinet according to Dr. Erichson (Kafer M. Brand. 1, 398).

Sp. 25. *Staph. piceus* belongs to the genus *Oxytelus*, as indeed all subsequent authors have determined, although there is much confusion in their works as to the precise species which is entitled to the specific name. The Linnæan specimen is a female 2 lines long, with the head considerably smaller than the thorax, and separated from it by a short neck. The sides of the thorax are entire and rounded, being slightly narrower behind than before the middle. Gyllenhal has very correctly described the peculiar sculpture of the thorax. I believe the *Oxyp. piceus* of the English Collections is a distinct species.

Sp. 26. *Staph. boliti* is a very minute species of *Gyrophæna*, being only half a line long according to Dr. Erichson, but is placed by Mannerheim in his genus *Bolitochara*. The former author has described two closely allied species under the names of *Gyr. boliti* and *minima*, but from the description of the antennæ he appears to have transposed the names; the third joint of the antennæ of the Linnæan specimens being the most minute, the fourth being rather smaller than the fifth.
